AMSAT News Service Weekly Bulletins
Issue: ANS-003
Date: 2016-01-03
Sources: amsat-ans-2016-ans-003-weekly-hyperkitty-b04adf1727.txt

---

AMSAT NEWS SERVICE
ANS-003
The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

In this edition:

* Fox-1Cliff and -1D matching contribution offer
* iCubeSat 2016, 5th Interplanetary CubeSat Workshop, Oxford, UK - Call for papers and registration
* Spring 2016 CubeSat Workshop Abstracts Submission Due January 15
* 2016 NASA Academy
* 2016 NOAA Undergraduate Scholarships
* Tim Peake Sandringham School UK Contact
* AMSAT Events
* ARISS News

SB SAT @ AMSAT $ANS-003.01
ANS-003 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 003.01
 >From AMSAT HQ KENSINGTON, MD.
DATE January 3, 2016
To All RADIO AMATEURS
BID: $ANS-003.01

Fox-1Cliff and -1D matching contribution offer

I just want to thank everyone for the outstanding response to our year-end request for support for the Fox-1Cliff and -1D fundraiser. During the period
of December 25th to December 31st, a total of $7052.41 was raised online through the FundRazr app. This includes a pledged $1000 matching donation from a generous donor/member.

73 weeks ago when we announced the launch opportunity for Fox-1Cliff (and later including -1D), we set $25,000 as a goal for online fundraising through social media and the FundRazr app. This amount covers a fractional but
significant portion of the launch expense. (The total cost of construction and

launch was estimated to be $125,000.) I'm very pleased that as of the 31th of December, we have raised $26,458 from over 250 contributors. Donations have
varied from $3 and up, so everyone may contribute and be recognized.

There is a continuing need to raise the additional funds necessary to launch
Fox-1Cliff and Fox-1D in 2016. Just visit
https://fundrazr.com/campaigns/6pz92/ab/561Zd
and pick your level of support. Donations of $1000 or more will receive a plaque with a solar panel protective cover after launch, and $100 qualifies for a Fox challenge coin to be delivered in 6-8 weeks when the next shipment
arrives.

Please see
http://www.amsat.org/?p=4843
and
http://www.amsat.org/?p=2957
for additional information.

Thank you for the support,

[ANS thanks Drew Glasbrenner, KO4MA, AMSAT VP Operations for the above information]

---

iCubeSat 2016, 5th Interplanetary CubeSat Workshop, Oxford, UK - Call for papers and registration

iCubeSat 2016 - 5th Interplanetary CubeSat Workshop
24-25 May 2016, Oxford, United Kingdom

Call for papers and registration

iCubeSat 2016, the 5th Interplanetary CubeSat Workshop, will address the technical challenges, opportunities, and practicalities of interplanetary space exploration with CubeSats. The workshop provides a unique environment for open wide ranging practical collaboration between academic researchers, industry professionals, policy makers and students developing this new and rapidly growing field.

Technical Program

Talks and round tables will focus on three themes: technology, science, and open collaboration. The program will also include unconference sessions to provide additional opportunities to engage with the interplanetary CubeSat community and potential collaborators. Talks and supporting material will be streamed and archived on the conference website. A lively social program in and around summertime Oxford will be arranged for participants and their guests.

Abstract Submission and Dates

Talks on astrodynamics, attitude control and determination systems, citizen science, communications, landers, launch opportunities, open source approaches, outreach, payloads, policy, power systems, propulsion, reentry systems, ride-shares, science missions, software, standardization, structures, systems engineering and other related

topics are all welcome.

1st June 2015 Registration opens at
http://iCubeSat.org/registration
1st April 2016 Abstract upload deadline
15th April 2016 Notification of abstract acceptance
20th May 2016 Presentation (and optional paper) upload deadline

Please confirm your interest in presenting or attending as soon as
possible (to assist us size the venue) by completing the registration
form at
http://iCubeSat.org/registration

Exhibition

CubeSat specialists and other vendors are invited to contact
exhibit(a)iCubeSat.org for details of exhibition opportunities.

Location

The 5th Interplanetary CubeSat Workshop will be held on or near
the University of Oxford campus, Oxford, United Kingdom
on Tuesday, May 24th and Wednesday May 25th, 2016.

Organizers

The organizing committee can be contacted at committee(a)iCubeSat.org

See you in Oxford!

pp iCubeSat 2016 Organising Committee
www.iCubeSat.org

Download the conference poster:
https://icubesat.files.wordpress.com/2015/06/20150606_icubesat2016poster.pdf

[ANS thanks the 5th Interplanetary CubeSat Workshop for the above
information]

Spring 2016 CubeSat Workshop Abstracts Submission Due January 15

13th Annual CubeSat Developer's Workshop
Abstract Submission Deadline is JANUARY 15, 2016!
Workshop Dates: April 20-22, 2016
San Luis Obispo, CA, US

Please keep abstracts under 500 words, the abstracts should indicate the
ideas
addressed within the presentation or poster, and the objectives of the
presentation/poster. Readers should not have to read the full text to
understand the abstract.

More importantly, any topic is welcome!

See
http://cubesat.atl.calpoly.edu/index.php/workshops/upcoming-workshops/
123--workshop-schedule
or

http://www.cubesat.org/

[ANS thanks www.cubesat.org/ for the above information]

2016 NASA Academy

The 2016 NASA Academy is being offered at three locations: NASA's Ames Research Center in California, NASA's Glenn Research Center in Ohio, and NASA's Marshall Space Flight Center in Alabama. Applications are being solicited for this 10-week summer experience for college students with emphasis on immersive and integrated multidisciplinary exposure and training. Activities include laboratory research, a group project, lectures, meetings with experts and administrators, visits to NASA centers and space-related industries, and technical presentations. Students learn how NASA and its centers operate, gain experience in world-class laboratories, and participate in leadership development and team-building activities.

Applicants must be U.S. citizens (including citizens of the U.S. territories Puerto Rico, Guam, U.S. Virgin Islands and Northern Marianas) majoring in a STEM discipline. The applicants must be undergraduate or graduate students enrolled full-time in accredited universities and colleges in the U.S. and its territories. Students may apply to any of the NASA Academy opportunities by following these steps:

1. Log into the NASA One Stop Shopping Initiative, or OSSI, site at https://intern.nasa.gov.
2. Register and set up an account.
3. Select the "Search Opportunities" tab at the top bar.
4. Select "NASA Center(s) of Interest" under "NASA Center/Facility."
5. Enter "Academy" in the "Keywords" block at the bottom of the screen.
6. Click the "Search" button at the very bottom of screen; a list of Academy Opportunities will then be displayed.
7. Click on the "View" icon in the first column under "Action" to read about the Opportunity of interest, followed by comments on additional instructions for completing the application, including two requested essays.

The deadline for receipt of NASA Academy application(s) and associated documents is Feb. 16, 2016.

Please direct questions about NASA Academy to NASA-Academy-Application(a)mail.nasa.gov.

[ANS thanks the NASA Education Express Message -- Dec. 30, 2015 for the above information]

2016 NOAA Undergraduate Scholarships

The National Oceanic and Atmospheric Administration is accepting applications for its 2016 Educational Partnership Program Undergraduate Scholarship and 2016 Ernest F. Hollings Scholarship Programs.

The Educational Partnership Program Undergraduate Scholarship Program provides scholarships for two years of undergraduate study to students

majoring in STEM fields that directly support NOAA's mission. Participants conduct research at a NOAA facility during two paid summer internships. A stipend and housing allowance is provided. Students attending an accredited Minority Serving Institution as defined by the U.S. Department of Education (Hispanic Serving Institutions, Historically Black Colleges and Universities, Tribal Colleges and Universities, Alaskan-Native Serving Institutions, and Native Hawaiian Serving Institutions) are eligible to apply for the program. The institutions must be within the United States or U.S. Territories. Applicants must be U.S. citizens and must earn and maintain a minimum 3.2 grade point average on a 4.0 scale.

The Ernest F. Hollings Scholarship Program provides scholarships for two years of undergraduate study with a paid internship at a NOAA facility during the interim summer session. A stipend and housing allowance is provided. Applicants must be U.S. citizens enrolled full-time at an accredited college or university. Applicants also must have and maintain a declared major in a discipline including, but not limited to, oceanic, environmental, biological, and atmospheric sciences; mathematics; engineering; remote-sensing technology; physical and social sciences including geography, physics, hydrology, geomatics; or teacher education that supports NOAA's programs and mission. Participants must earn and maintain a minimum 3.0 grade point average on a 4.0 scale.

Applications for both scholarship programs are due Jan. 29, 2016.

For more information, visit
http://www.oesd.noaa.gov/scholarships/.

Please direct questions about these scholarship opportunities to
StudentScholarshipPrograms(a)noaa.gov.

[ANS thanks the NASA Education Express Message -- Dec. 30, 2015 for the
above
information]

Tim Peake Sandringham School UK Contact

The first UK Amateur Radio school contact by UK astronaut Tim Peake
GB1SS from
the International Space Station (ISS) will take place on Friday, January 8,
2016 at 0847 GMT with students at Sandringham School, St. Albans in
Hertfordshire. The school will use the call sign GB1SAN.

The St. Albans based Verulam Amateur Radio Club (VARC) ran an Amateur Radio
Foundation License course in December. Three of the candidates were
pupils from
Sandringham School who took the course in preparation for the contact
with Tim
Peake.

ARISS UK will provide and set up all necessary radio equipment (for example,
low earth orbit satellite tracking antennas and radios) to establishing
a fully
functional, direct radio link with the International Space Station from the
school premises. In a ten-minute window when the ISS will be over the UK, an
amateur radio contact will be established with Tim, and students will be
able
to ask him questions about his life and work on board the ISS.

Tim will use a frequency of 145.800 MHz FM for the contact and his signal should be receivable across the British Isles and Europe.

What equipment do you need to hear the ISS?

Almost any 144 MHz FM transceiver will receive the ISS; you can even use a general coverage VHF scanner with an external antenna. As far as the antenna is concerned the simpler the better. A ¼ wave ground plane can give good results because it has a high angle of radiation. Large 2m colinears don't work quite as well because the radiation pattern is concentrated at the horizon.

You can receive the ISS using a 144 MHz hand-held outdoors with its helical antenna but a 1/4 wave whip will give far better results.

In the UK we use narrow 2.5 kHz deviation FM but the ISS transmits on 145.800 MHz with the wider 5 kHz deviation used in much of the world. Most rigs can be switched been wide and narrow deviation FM filters so select the wider filter. Hand-held rigs all seem to have a single wide filter fitted as standard.

The International Space Station is traveling around the Earth at over 28,000 km/h. This high speed makes radio signals appear to shift in frequency, a phenomenon called Doppler Shift. When the ISS is approaching your location the signal may be 3.5 kHz higher in frequency on 145.8035 MHz. During the 10 minute pass the frequency will gradually move lower reaching 145.7965 MHz as the ISS goes out of range. To get maximum signal you ideally need a radio that tunes in 1 kHz or smaller steps to follow the shift but in practice acceptable results are obtained with the radio left on 145.800 MHz.

ISS Amateur Radio Stations

There are two amateur radio stations available to astronauts on the ISS.

The Russian Service Module has a dual-band Kenwood TM-D710 transceiver (this replaced the older TM-D700). Four antennas are available, three of which are identical and each can support both transmit and receive operations on 2m, 70cm, L band and S band. They also support reception for the Russian Glisser TV system, which is used during spacewalks. The fourth antenna is a 2.5 m long vertical whip that can be used to support High Frequency (HF) operations although at the present time there is no amateur HF equipment.

The ESA Columbus Module has two Ericsson M-PA series FM 5 watt handheld radios, one for 145, and the other for 435 MHz, as well as the 2.4 GHz HamTV Digital Amateur Television Transmitter. Antennas are available for 145 and 435 MHz for the Ericsson handhelds; additionally, there are 1260 and 2400 MHz antennas for the HamTV system.

Tim Peake will the using the equipment in the ESA Columbus Module.

The ISS HamTV will not be available for the Sandringham School contact because

the equipment will be turned off to permit other experiments.

You'll be able to listen online to Tim Peake GB1SS on the 145.800 MHz FM downlink by using the SUWS WebSDR radio at
http://websdr.suws.org.uk/

Tim Peake ISS School Contacts Announced
http://amsat-uk.org/2015/12/15/tim-peake-iss-school-contacts-announced/

Sandringham School
http://www.sandringham.herts.sch.uk/

Twitter:
https://twitter.com/SandringhamSch1

Verulam Amateur Radio Club
http://www.verulam-arc.org.uk/

What is Amateur Radio?
http://www.essexham.co.uk/what-is-amateur-radio

Find an amateur radio training course near you
https://thersgb.org/services/coursefinder/

ARISS
http://www.ariss-eu.org/

[ANS thanks ARISS & AMSAT-UK for the above information]

AMSAT Events

Information about AMSAT activities at other important events around the country. Examples of these events are radio club meetings where AMSAT Area Coordinators give presentations, demonstrations of working amateur satellites, and hamfests with an AMSAT presence (a table with AMSAT literature and merchandise, sometimes also with presentations, forums, and/or demonstrations).

*Saturday, 9 January 2016 – Thunderbird Hamfest 2016 in Phoenix AZ

*Friday and Saturday, 19-20 February 2016 – Yuma Hamfest and 2016 ARRL Southwest Division Convention in Yuma AZ

*Saturday and Sunday, 12-13 March 2016 – ScienceCity science fair, on the University of Arizona campus in Tucson AZ

*Saturday, 19 March 2016 – Scottsdale Amateur Radio Club Spring Hamfest 2016 in Scottsdale AZ

*Saturday, 26 March 2016 – Tucson Spring Hamfest in Tucson AZ

[ANS thanks AMSAT-NA for the above information]

ARISS News

Upcoming Contacts

Frederick W. Harnett Middle School, Blackstone, Massachusetts, telebridge
via K6DUE
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Tue 2016-01-05 17:42:06 UTC 81 deg

Sandringham School, St. Albans, Hertfordshire, UK, direct via GB1SAN
The ISS callsign is presently scheduled to be GB1SS
The scheduled astronaut is Timothy Peake KG5BVI
Contact is a go for: Fri 2016-01-08 08:47:47 UTC 83 deg.

Watch
http://www.ariss.org/upcoming-contacts.html
for information about upcoming contacts as they are scheduled.

[ANS thanks ARISS, and Charlie, AJ9N for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org